

19. Briefly discuss about the glutamic acid production using fermentation process.
 20. Give a detailed note on vitamin B12 and its production process.
-

APRIL/MAY 2025

**FMB62/CMB62 — INDUSTRIAL
MICROBIOLOGY**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is strain improvement?
2. Define lyophilization.
3. Define bioreactor.
4. Differentiate between homolactic and heterolactic fermentation.
5. What is malting?
6. Write the nutritional values of fermented dairy products.
7. Write the steps of Acetic acid production.



8. Micro organisms involved in lysine production.

9. Streptomycin and its mode of action.

10. Write any two applications of protease.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Discuss briefly about history and scope of industrial microbiology.

Or

(b) Write a brief note on preservation techniques of the production strains.

12. (a) Differentiate between batch and continuous fermentation methods.

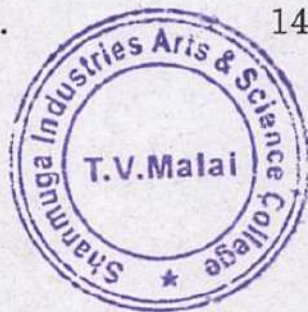
Or

(b) Write a note on different fermentation media and its sterilization process.

13. (a) Explain the steps involved in beer production.

Or

(b) Describe about the production of cheese, nutritional value and its types.



14. (a) Explain the steps involved in the production of citric acid and its applications.

Or

(b) Write a note on steroid transformation in industrial fermentation process.

15. (a) Elaborate the concept of amylase enzyme production.

Or

(b) Explain the substrates, production and downstream processing of ethanol.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Describe in detail on industrially important microorganisms, screening and preservation.

17. Elaborate note on the various downstream processing techniques used in industries.

18. Explain the production, purification of spirulina and its applications.